

Claims

1 1. Substantially pure nucleic acid encoding an IAP  
2 polypeptide.

1 2. The nucleic acid of claim 1, wherein said  
2 polypeptide comprises a ring zinc finger domain and at least  
3 one BIR domain.

1 3. The nucleic acid of claim 2, wherein said  
2 polypeptide has at least two BIR domains.

1 4. The nucleic acid of claim 3, wherein said  
2 polypeptide has at least three BIR domains.

1 5. The nucleic acid of claim 1, wherein said DNA  
2 contains the xiap gene.

1 6. The nucleic acid of claim 1, wherein said DNA  
2 contains the hiap2 gene.

1 7. The nucleic acid of claim 1, wherein said DNA  
2 contains the hiap1 gene.

1 8. The nucleic acid of claim 1, wherein said  
2 nucleic acid is genomic DNA.

1 9. The nucleic acid of claim 1, wherein said  
2 nucleic acid is cDNA.

1 10. The nucleic acid of claim 1, wherein said  
2 nucleic acid is mammalian DNA.

1            11. The nucleic acid of claim 10, wherein said  
2   mammalian DNA is human DNA.

1           12. The nucleic acid of claim 10, wherein said  
2   mammalian DNA is murine DNA.

1           13. Substantially pure DNA having the sequence of  
2   Fig. 5, or degenerate variants thereof, and encoding the  
3   amino acid sequence of Fig. 5.

1           14. Substantially pure DNA having the sequence of  
2   Fig. 6, or degenerate variants thereof, and encoding the  
3   amino acid sequence of Fig. 6.

1            15. Substantially pure DNA having about 50% or  
2 greater nucleotide sequence identity to the DNA sequence of  
3 Fig. 5.

1           16. Substantially pure DNA having about 50% or  
2 greater nucleotide sequence identity to the DNA sequence of  
3 Fig. 6.

1        17. A purified DNA sequence substantially identical  
2        to the DNA sequence shown in Fig. 5.

1           18. A purified DNA sequence substantially identical  
2 to the DNA sequence shown in Fig. 6.

1 19. A substantially pure mammalian IAP polypeptide.

1           20. The polypeptide of claim 19, wherein said  
2 polypeptide is the murine HIAP1 polypeptide.

1           21. The polypeptide of claim 19, wherein said  
2 polypeptide is the murine HIAP2 polypeptide.

1           22. The polypeptide of claim 19, comprising an  
2 amino acid sequence substantially identical to an amino acid  
3 sequence shown in Fig. 5.

1           23. The polypeptide of claim 19, comprising an  
2 amino acid sequence substantially identical to an amino acid  
3 sequence shown in Fig. 6.

1           24. A therapeutic composition comprising as an  
2 active ingredient an IAP polypeptide according to claim 19,  
3 said active ingredient being formulated in a physiologically  
4 acceptable carrier.

1           25. A method of inhibiting apoptosis in a mammal,  
2 said method comprising:  
3           providing a cell of said mammal with a transgene  
4 encoding an IAP polypeptide, said DNA positioned for  
5 expression in said cell.

1           26. The method of claim 25 wherein said polypeptide  
2 is murine HIAP1.

1           27. The method of claim 25 wherein said polypeptide  
2 is murine HIAP2.

1           28. A method of detecting an IAP gene in an animal  
2 cell, said method comprising:  
3           contacting the DNA of claim 13 or a portion thereof  
4 greater than about 18 nucleic acids in length with a  
5 preparation of genomic DNA from said animal cell under



6 said gene indicating the presence of a compound which  
7 modulates apoptosis.

1 34. The method of claim 33, wherein said IAP gene  
2 is murine HIAP1.

1 35. The method of claim 33, wherein said IAP gene  
2 is murine HIAP2.

1 36. A method for detecting a protein that interacts  
2 with an IAP polypeptide comprising the steps of:

3 a. contacting under suitable conditions an IAP  
4 protein with a compound suspected to be a modulator of  
5 apoptosis; and

6 b. detecting the interaction of said compound with  
7 said IAP polypeptide, wherein said interaction indicates  
8 that said compound is involved in the modulation of  
9 apoptosis.

1 37. The method of claim 36, wherein said IAP  
2 polypeptide is HIAP1.

1 38. The method of claim 36, wherein said IAP  
2 polypeptide is HIAP2.

1 39. The method of claim 36, wherein said IAP  
2 polypeptide is XIAP.

1 40. The method of claim 36, wherein said  
2 interaction is detected by measuring the transcriptional  
3 activity of a reporter gene.

1           41. The method of claim 36, wherein said  
2 interaction occurs in a yeast cell.

1           42. The method of claim 36, wherein said compound  
2 is a polypeptide.

1           43. The method of claim 42, wherein said  
2 polypeptide is expressed from a recombinant nucleic acid.

1           44. A method of diagnosing an increased likelihood  
2 of a cell proliferative disease in a patient, said method  
3 comprising detecting the level of IAP gene expression in  
4 said patient.

1           45. A method of diagnosing an increased likelihood  
2 of a cell proliferative disease in a patient, said method  
3 comprising detecting the level of IAP polypeptide activity  
4 in said patient.

1           46. A transgenic rodent having a knockout mutation  
2 in an IAP gene.

1           47. A transgenic rodent, said rodent having  
2 additional copies of IAP nucleic acids added to its genome.

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